



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,860	07/09/2003	Huanzhao Zeng	100204739-1	9976
22879	7590	05/22/2007	EXAMINER	
HEWLETT PACKARD COMPANY			SETH, MANAV	
P O BOX 272400, 3404 E. HARMONY ROAD				
INTELLECTUAL PROPERTY ADMINISTRATION			ART UNIT	PAPER NUMBER
FORT COLLINS, CO 80527-2400			2624	
			MAIL DATE	DELIVERY MODE
			05/22/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/615,860	ZENG ET AL.	
Examiner	Art Unit		
Manav Seth	2624		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 26 April 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-60 is/are pending in the application.  
4a) Of the above claim(s) 1-27,38-47 and 56-60 is/are withdrawn from consideration.  
5)  Claim(s) 28-37 is/are allowed.  
6)  Claim(s) 48,49 and 51-54 is/are rejected.  
7)  Claim(s) 50 and 55 is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/09/2003.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_ .

**DETAILED ACTION**

***Response to Amendment and Restriction/Election Requirement***

1. The amendment received on April 26, 2007 has been entered in full.
2. Applicant in response to the requirement for restriction/election has selected group II comprising claims 28-37 and 48-55 for examination, without traverse and therefore these respective claims have been examined by the examiner and all other claims have been withdrawn from examination.

***Claim Objections***

3. Claims 28, 32 and 35 are objected to because of the following informalities:

Claims 28, 32 and 35 recites number representations such as  $(2n, 2n-1)$ . These number representations as well understood in view of the specification should be  $(2^n, 2^n-1)$ .

Appropriate correction is required.

NOTE: In order to add the power of n to a number – (Enter number (2), then hold CTRL and SHIFT keys and press (+) key, release all keys and then type letter (n)).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 48-49 and 51-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Ulichney et al., U.S. Patent No. 6,487,308.

Claim 48 recites “a system comprising: a processor; a computer-readable medium having data stored thereon having a plurality of pixels, each pixel having a plurality of values corresponding to a plurality of color components of a color space”. Ulichney discloses the generation of RGB components for a pixel of a video/image using a computer system to further display it on the display systems (figure 2, col. 1, lines 20-30; col. 2, lines 10-15) where a processor and computer readable medium such as memory, registers are inherent part of the process to be used in the computer process to perform any processing. Ulichney further discloses images stored in a storage medium which has a plurality of pixels and each pixel comprises of a plurality of color components of a color space which further have plurality of values since each color component is represented by multiple bits (col. 1, lines 20-30; col. 2, lines 5-10; figure 11 – col. 9, lines 30-35- stored on registers/memory).

Claim 48 further recites “the value of the pixel for each color component having at least one interpretation bit; and a computer program executed by the processor to each color component for each pixel based on a value of the at least one interpretation bit for the value of the color component for the pixel”. Ulichney discloses “a portion of the allocation for the R2 value, namely bit fields 8-9 indicate an out-of-range value for the red field. Similarly, an out of range field of bits 24-25 is provided for the blue field, and out of range field of 40-41 is provided for the green field. These bits identify whether or not the value needs to be truncated” (col. 9, lines 40-45) and further discloses the use of these out of range bits to provide proper processing (e.g. truncating) of color components in view of the display requirements (such as range of (0-255)) to display (col. 9, lines 45-67 through col. 10, lines 1-67 through col. 11), where the out of range bits for each color component being the interpretation bits.

Regarding claim 49, claims 49 has been similarly analyzed and rejected as per claim 48.

Regarding claims 51 and 52, these claims recite wherein the computer program is executed form a computer readable medium that is same or different on which the image data is stored. As discussed in the rejection of claim 48, Ulichney discloses the use of a computer system where software, memory and processor are inherent part of the process to perform any processing and as discussed does teach a computer readable medium or storage on which image data is stored. As being inherent that software application are stored on the hard drive of the computer and also can be stored on an external memory. Since both image data and program being the binary data stored on a memory, it being a design issue based on one's specific choice and availability of the hardware.

Regarding claim 53, Ulichney discloses the system further comprising a display on which the computer program displays each color component for each pixel (figure 2 – element 2).

Regarding claim 54, claim 54 has been similarly analyzed and rejected as per claim 48.

6. Claims 28-37 are allowed.

The following is an examiner's statement of reasons of allowance:

Both the instant invention and the closest prior art Ulichney et al., U.S. Patent No. 6,487,308, are directed to a method and system for displaying image data having a plurality of pixels, each pixel having a plurality of values corresponding to a plurality of color components of a color components of a color space, each value having a plurality of bits, where the value of the pixel for the color component has at least one interpretation bit. The prior art of record, Ulichney does teach of using these interpretation bits in processing (truncating) the color component value of the pixels for display purposes but do not teach the use of these interpretation bits to extend the range of the value of the color component of the pixel as recited in the claim limitations "where the interpretation bit (or bits) for the value of the pixel for the color component is a second value, displaying the color component for the pixel as one of:  $2^n$  plus the value of the pixel for the color component;  $-2^n$  plus the value of the pixel for the color component; 0.5 plus the value of the pixel for the color component; where the most significant bit of the plurality of bits of the value of the pixel for the color component is a first value,  $-2^{n-1}$  plus a value equal to the least significant (n-1) bits of the plurality of bits of the value of the pixel for the color component; and, where the most significant bit of the plurality of bits of the value of the pixel for the color component is a second value,  $2^n$  plus a value equal to the least significant (n-1) bits of the plurality of bits of the value of the

pixel for the color component" of claims 28, 32 and 35. Therefore claims 28, 32 and 35 are allowed. All other claims depending on claims 28, 32 and 35 are allowable at least by dependency on claims 28, 32 and 35.

7. Claims 50 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons of allowance:

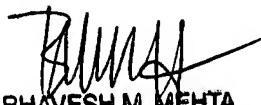
The prior art of record, Ulichney, does not teach the limitation "the values of pixels for two of the red, green, and blue color components each having a pair of interpretation bits, and the value of the pixel for the other of the red, green, and blue color components having a single interpretation bit" as recited in claims 50 and 55.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BHAVESH M MEHTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

Manav Seth  
Art Unit 2624  
May 15, 2007